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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/760,611	01/20/2004	Stuart Philip Speakman	M0274.70031 US01	9959
7590	06/29/2005		EXAMINER LEE, CALVIN	
Steven J. Henry Wolf, Greenfield & Sacks, P.C. 600 Atlantic Avenue Boston, MA 02210			ART UNIT	PAPER NUMBER
			2818	
DATE MAILED: 06/29/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/760,611	Applicant(s) SPEAKMAN, STUART PHILIP	
	Examiner Lee, Calvin	Art Unit 2818	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-10 and 16-27 is/are pending in the application.
- 4a) Of the above claim(s) 25 and 26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 2-10, 16-24 and 27 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. <u>hereto</u> . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

OFFICE ACTION

Response to Amendment

1. The cancellation of claim 1 and the addition of claims 2-27 in the amendment, received on May 04, 2005, are acknowledged.

Claim Rejections - 35 U.S.C. § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 2-10, 16-24 and 27 are rejected under 35 U.S.C. 103(a) as anticipated by *Fink et al* in view of *Jordan et al* (US 5,279,678) or *Kulkarni et al* (US 5,595,689).

Fink et al teaches or suggests a method of forming an electrically conductive circuit element using a drop-on-demand deposition technique to deposit droplets of polymeric-based or inorganic fluid [Fig. 2 and cols. 1-2]. *Fink et al* is silent about a conductivity of the electrically conductive element being in the range from about 1 to about $4 \times 10^5 \text{ S.cm}^{-1}$.

Jordan et al discloses a photovoltaic cell having an electrode formed by spray pyrolysis and comprising a bottom layer 24 having a high conductivity of more than 2200 mho/cm ($2.2 \times 10^3 \text{ S.cm}^{-1}$) and a top layer 26 having a lower conductivity [col. 7, ln.40]. Alternately, *Kalkarni et al* discloses an electrically conductive layer formed on a surface using a drop-on demand to deposit droplets (by solution spinning) to form layers of polyaniline, whose conductivity is in a range from 20 to 60 S/cm [col. 2].

It would have been obvious to one of ordinary skill to have modified the deposition material of *Fink et al* by utilizing a material conductivity, suggested by *Jordan et al* or *Kulkarni et al*, because one would adjust the deposited material chemical to result in the most effective conductive circuit element.

Response to Arguments

4. After a closer review of the Applicant's remark and the previously cited references, the examiner is convinced that *Fink et al* alone does not teach a conductivity in the range from about 1 to about $4 \times 10^5 \text{ S.cm}^{-1}$. However, the examiner has found that US 5,595,689 to *Kulkarni et al* at least reads on the claimed conductivity. Therefore, above is a new ground of rejections.

Contact Information

5. Any inquiry concerning this communication from the Examiner should be directed to *Calvin Lee* at (571) 272-1896 from 7:00AM to 5:00PM (Monday-Thursday, Eastern Time). If attempts to reach the examiner by telephone are unsuccessful, Art Unit 2825's Supervisory Patent Examiner *David C. Nelms* can be reached at (571) 272-1787.

Any inquiry relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0596. The central fax number is (703) 872-9306 for all communications to be entered (e.g., amendments, remarks, IDS, etc.)

CL


David Nelms
Supervisory Patent Examiner
Technology Center 2800

Dated: June 23, 2005